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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/614,896	07/09/2003	Makoto Ito	01-443	8452
23400	7590	11/04/2003	EXAMINER	
LE DANG D				
ART UNIT			PAPER NUMBER	
2834				

DATE MAILED: 11/04/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/614,896	ITO ET AL.	
	<b>Examiner</b>	<b>Art Unit</b>	
	Dang D Le	2834	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED. (35 U.S.C. § 133)
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-8 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-8 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 09 July 2003 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                             | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). ____.  |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                    | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) ____. | 6) <input type="checkbox"/> Other: _____                                    |

## **DETAILED ACTION**

### ***Drawings***

1. Figures 10 and 11 should also be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.
2. The drawings are objected to because "hole element" should replace with -- Hall element -- in Figures 5, 6, and 11. A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

### ***Specification***

3. The abstract of the disclosure is objected to because "hole" should be replace with -- Hall -- at lines 10 and 11. Correction is required. See MPEP § 608.01(b).
4. The disclosure is objected to because of the following informalities: replace "hole" with -- Hall --, in many pages. Appropriate correction is required.

### ***Claim Objections***

5. Claims 1-8 are objected to because of the following informalities: replace "hole" with -- Hall --. Appropriate correction is required.

### ***Claim Rejections - 35 USC § 102***

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

7. Claims 1 and 8 are rejected under 35 U.S.C. 102(b) as being anticipated by Shinohara et al. (US 2001/0013731).

Regarding claim 1, Shinohara et al. show a brushless motor, comprising:

- A stator with a plurality of sets of excitation coils (Figure 2) therearound;
- A rotor (Figure 3);
- A sensor magnet (17) having  $n$  poles ( $12, n > 2$ ) rotated integrally with said rotor; and
- A first magnetic sensor, a second magnetic sensor, and a third magnetic sensor, each (23a-23c) for detecting a magnetic field of said sensor magnet, wherein
- An angular distance between the first and second magnetic sensors, and an angular distance between the second and third magnetic sensors are set to be a smallest possible one of angles less than 180 degrees that are obtained by  $(3m + 1)$  theta (10 degrees in Figure 3) and  $(3m + 2)$  theta (20 degrees in Figure 3), where  $m$  is an integer and equal to or larger than zero, and theta is a basic minimum mechanical angle obtained by  $360 \text{ degrees}/(n*3)$ .

Regarding claim 8, it is noted that Shinohara et al. also show all of the limitations of the claimed invention.

***Claim Rejections - 35 USC § 103***

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

10. Claims 2 and 3-5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shinohara et al. in view of Kyodo (5,796,231)

Regarding claim 2, Shinohara et al. show all of the limitations of the claimed invention except for phase adjusting means for generating having a mutual phase position signals difference of electrical angle of 120 degrees by adjusting phases of output signals from said first, second, and third magnetic sensors.

Kyodo shows phase adjusting means for generating having a mutual phase position signals difference of electrical angle of 120 degrees by adjusting phases of

output signals from said first, second, and third magnetic sensors for the purpose of controlling the motor operation.

Since Shinohara et al. and Kyodo are all from the same field of endeavor; the purpose disclosed by one inventor would have been recognized in the pertinent art of the others.

It would have been obvious at the time the invention was made to a person having ordinary skill in the art to include a phase adjusting means as taught by Kyodo for the purpose discussed above.

Regarding claims 3-5, it is noted that Shinohara et al. and Kyodo also show all of the limitations of the claimed invention.

11. Claims 6 and 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shinohara et al. in view of Kurita (5,610,457).

Regarding claim 6, Shinohara et al. show all of the limitations of the claimed invention except for said magnetic sensors and power supply terminals for said excitation coils being disposed upon a substrate, said substrate being assembled such that said magnetic sensors are positioned in close proximity to said sensor magnet.

Kurita shows said magnetic sensors and power supply terminals for said excitation coils being disposed upon a substrate, said substrate being assembled such that said magnetic sensors are positioned in close proximity to said sensor magnet for the purpose of supporting the sensors.

Since Shinohara et al. and Kurita are all from the same field of endeavor; the purpose disclosed by one inventor would have been recognized in the pertinent art of the others.

It would have been obvious at the time the invention was made to a person having ordinary skill in the art to dispose the sensors on the substrate as taught by Kurita for the purpose discussed above.

Regarding claim 7, it is noted that Kurita also shows all of the limitations of the claimed invention.

***Information on How to Contact USPTO***

12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dang D Le whose telephone number is (703) 305-0156. The examiner can normally be reached on Monday through Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nestor Ramirez can be reached on (703) 308-1371. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-1782.

10/24/03

DANG LE  
PRIMARY EXAMINER

